Fabs behind chip shares

An article in the New York Times advised semiconductor investors to search for companies that have their own chip fabrication plants. "During the chip slump from 2000 to 2002, companies that had invested heavily in fabrication plants, were weighed down with huge depreciation charges that depressed earnings.

As the industry strains to meet renewed demand, these same factories may offer a competitive advantage, said John Lau, an analyst at Banc of America Securities. Intel, Advanced Micro Devices and Agere Systems all have substantial in-house capacity that should allow them to expand profit margins over the next year,

The market, Lau added, has "not yet fully recognised" that potential. Shares of Intel, for example, now at $30.52, should reach $39 this year based on a full-year earnings estimate of $1.32 a share. That compares with 85c/share reported in 2003. David Wu, an analyst at Wedbush Morgan Securities, agrees that companies with fab plants can prosper. "Rich men have fabs; poor men don't," he said, adding that analog chip makers like Linear Technologies, Maxxim Integrated Circuits and Analog Devices had the capacity to fully exploit rising demand. Analog Devices stock, now at $47.85, has the potential to grow by 30-40% this year, Wu said.

Another beneficiary of an upturn in demand is Big Blue. IBM, not often regarded as a chip company, says its technology group should report a profit this year after two years of losses, as the $2.5bn chip-making plant in East Fishkill, N.Y, enjoys strong demand from IBM's computer division and outside customers. The technology group reported losses of $252m last year on $3.7bn in sales.

Chip stocks are not cheap. Those in the Standard & Poor's 500-stock index trade at a PE ratio of 69, on average, compared with a multiple of 24 for the overall index. The Philadelphia Semiconductor Index, which includes a broader range of chip stocks, has no P/E ratio because so many of its companies have reported losses. Over the last 12 months, in anticipation of soaring chip demand, the PSI has risen 88% compared with 34% for the S.& P. 500. Andrew Micallef, VP for supply chain management and quality at Agere Systems, said, "There are a lot of indications capacity will become very tight over the next two quarters." One sign is that some Agere customers, notably telecommunications companies, are placing their chip orders several weeks before they ordinarily would, hoping to ensure a supply.

Sauvons la recherche

French research directors, deeply unhappy about the government's treatment of science, are planning to resign en masse in March if politicians do not meet demands for the future of French research. Half the lab directors employed by the government's two largest biomedical research bodies, the National Center for Scientific Research and the Institute for Health and Medical Research, have declared they are prepared to resign administrative responsibilities.

The protesters want government to pay its 'debt' and its attributed portion of the 2004 national budget. The French government has yet to pay the labs their funding from the 2002 budget. Government is also urged to stop cutting jobs in national laboratories. Over 500 permanent jobs have been lost since 2003. Finally a national consultation on the future of research in French society is wanted.

Risparmi i ricercatori

In Italy the research furore is over a revamp of Italy's University lecturers and researchers. Professors' salaries are to be split in two, a fixed and a variable payment. Teaching hours will be doubled. Access to university posts will be regulated by national competitions every two years. Currently teaching roles are regulated by internal competitions, run by the universities.

Under the new scheme, winners will end up in a national list from which each university will be able to choose the most suitable candidate.

The newly appointed professors will be offered a 3-year contract, renewable for only another 3 years. Then universities will decide whether to offer the professor a permanent job.

Researchers will be offered a 5-year contract, renewable for only 5 years. Objectors say that the new law means researchers at 40 will have no more contracts and no more opportunities, while the university world will be thrown into mediocrity, populated by de-motivated, desperate people facing a constant struggle for survival.

UAVs drive electro-optics

World unmanned aerial vehicle (UAV) budgets are projected to rise to $2bn pa, or more, over the next few years according to David Rockwell, senior electronics analyst for Teal Group Corp. For many UAV programs, sensor payloads and data transfer, processing, and display comprise more than half of total spending. The US Air Force, Navy, and other international services will ultimately procure more than 100 Northrop Grumman Global Hawks, for which the standard sensor today is the 880lb, $10-$15m Integrated Sensor Suite (ISS) from Raytheon. Electro-optics continue to benefit from increased funding, including BAE Systems' Spectral Infrared Remote Imaging Transition Testbed hyperspectral imager, and research funding will continue to greatly exceed procurement.

The first three enlarged RQ-4B Global Hawks were contracted in July 2003, with payload increased from 2000 to 3000 lbs, and power available for sensors from 10KVA to 25KVA.

Global Hawk will dominate US UAV funding, even compared to General Atomics' (San Diego, CA) armed Predator and Predator B. Predator mounts Raytheon's more economical ($2m-$2.5m), UAV-typical AAS-52 Multispectral Targeting System, a 43cm-diameter under-nose-mounted sensor ball incorporating a laser designator and colour electro-optic and IR cameras.

Modular payloads such as this will see much wider application, but less funding (especially R&D testing and evaluation) than custom fits for the largest endurance UAVs.